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network; multiplexing, at the receiving node, signals provided to the outlet of the protection path with signals provided to the outlet of the working path; and detecting, in each node, a failure taking place on a line, and making a loop-back from a working path to the corresponding protection path in the node which detected the failure.

Dwg.2/26

Title Terms: LINE; FAIL; RECOVER; METHOD; LOOP; BACK; DUAL; RING; DATA; NETWORK; AUTOMATIC; LOOP; BACK; CONNECT; ONE; LINE; TWO; LINE; NETWORK; SECOND; LINE; OPPOSED; DIRECTION; TRANSMISSION

Derwent Class: W01

International Patent Class (Main): H04J-003/14; H04L-012/42

File Segment: EPI

Manual Codes (EPI/S-X): W01-A03; W01-A03B1; W01-A06B2; W01-A06G2

?t 2/9/1

2/9/1

DIALOG(R)File 351:DERWENT WPI

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010629570 **Image available**

WPI Acc No: 96-126523/199613

XRPX Acc No: N96-106632

Protection data control system for ring transmission line - has several nodes each having circuit to update newest ring protection data in response to their master node when further receiving notification packet data

Patent Assignee: NEC CORP (NIDE)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
JP 8023342	A	19960123	JP 94154384	A	19940706	H04L-012/437	199613 B

Priority Applications (No Type Date): JP 94154384 A 19940706

Patent Details:

Patent	Kind	Lan	Pg	Filing Notes	Application	Patent
JP 8023342	A		6			

Abstract (Basic): JP 8023342 A

The method involves collecting ring protection information in one node. The node publishes a collection packet and send the ring protection information to other nodes.

Each node inserts the ring protection information on a self-node in the concerned collection packet and send it out to the following stage nodes at the reception of the collection packet. One node makes, publish and send out the notification of the newest ring protection information. Each node updates the newest ring protection information in the reception of the notification packet.

ADVANTAGE - Automatically and easily changes ring protection information of each node.

Dwg.2/7

Title Terms: PROTECT; DATA; CONTROL; SYSTEM; RING; TRANSMISSION; LINE; NODE ; CIRCUIT; UPDATE; RING; PROTECT; DATA; RESPOND; MASTER; NODE; RECEIVE; NOTIFICATION; PACKET; DATA

Derwent Class: W01

International Patent Class (Main): H04L-012/437

File Segment: EPI

Manual Codes (EPI/S-X): W01-A03B; W01-A06A; W01-A06B2; W01-A06E2A; W01-A06G2

?t 3/9/1

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DIALOG(R) File 351:DERWENT WPI
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009198238 **Image available**

WPI Acc No: 92-325670/199240

XRPX Acc No: N92-248931

Line failure recovery method by loop-back in dual ring data networks -
automatically looping back connection between one line, of two-line
network, and second line with opposite direction of transmission

Patent Assignee: NIPPON TELEGRAPH & TELEPHONE CORP (NITE)

Inventor: KAJIYAMA Y; NAKASHIMA T; TATSUNO H; TOKURA N

Number of Countries: 006 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
EP 506396	A2	19920930	EP 92302620	A	19920326	H04L-012/42	199240 B
CA 2063936	A	19920927	CA 2063936	A	19920325	H04J-003/14	199251
✓ JP 5268234	A	19931015	JP 9266419	A	19920324	H04L-012/42	199346
US 5469428	A	19951121	US 92858364	A	19920325	H04L-012/42	199601
EP 506396	A3	19950719	EP 92302620	A	19920326	H04L-012/42	199612

Priority Applications (No Type Date): JP 928736 A 19920121; JP 9187711 A
19910326; JP 91181176 A 19910722

Cited Patents: No-SR.Pub; 5.Jnl.Ref; EP 280231; EP 290933; EP 403973; EP
456206

Patent Details:

Patent	Kind	Lan	Pg	Filing	Notes	Application	Patent
EP 506396	A2	E	31				

Designated States (Regional): DE FR GB

US 5469428 A 26

Abstract (Basic): EP 506396 A

The method involves detecting a line failure in a two-ring network (31,32) for transmitting packets or cells of information to make a loop-back transmission recovery automatically. A working path is established on one line (31) between a first input node (11) for transmission and a second node (15) for receiving information to be output. A protection path is established on the second line (32), which operates in the reverse direction of transmission to the first. When any node e.g. (14) detects line failure, a loop-back or crossover between the two line is established at the node upstream (13) of the detected fault, i.e. at one node upstream from the node (14) which detected the line failure.

USE/ADVANTAGE - For simplified, fast operational recovery from line failure in dual ring networks.

Dwg.10/26

Abstract (Equivalent): US 5469428 A

A loop-back method for a dual ring network which loops back information between two ring lines of opposite transmission directions, for transmitting the information to a path indicated by a path ID number or a time slot position from a periodic frame, comprising the steps of establishing a working path on a first of the two ring lines, between a transmission node and a receiving node, the working path having an inlet and outlet for transferring information to and from the ring network; establishing a protection path on a second of the two ring lines, extending from a first node which is at or adjacent the receiving node, in a direction opposite to that of the working path, the protection path being in the form of a open ring and having an inlet and outlet for transferring information to and from the ring

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DIALOG(R)File 351:DERWENT WPI
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008830175 **Image available**

WPI Acc No: 91-334191/199146

XRPX Acc No: N91-256097

Fault recovery system for ring network - transfers input fault detected in any node in ring of centralised or distributed control to other node, using set user byte in overhead

Patent Assignee: FUJITSU LTD (FUIT)

Inventor: TAKIZAWA Y; YAMAGUCHI K; YAMASHITA H; YAMGUCHI K

Number of Countries: 006 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Main IPC	Week
EP 456206	A	19911113	EP 91107476	A	19910508		199146 B
CA 2041789	A	19911110					199206
JP 4014935	A	19920120	JP 90119524	A	19900509		199215
EP 456206	A3	19920304	EP 91107476	A	19910508		199325
US 5307353	A	19940426	US 91696742	A	19910507	G01R-031/28	199416
EP 456206	B1	19960131	EP 91107476	A	19910508	H04L-012/42	199609
DE 69116724	E	19960314	DE 616724	A	19910508	H04L-012/42	199616
			EP 91107476	A	19910508		
CA 2041789	C	19980804	CA 2041789	A	19910503	H04L-001/00	199842

Priority Applications (No Type Date): JP 90119524 A 19900509 /

Cited Patents: NoSR.Pub; 1.Jnl.Ref; EP 102222; EP 91129; US 4648088

Patent Details:

Patent	Kind	Lan	Pg	Filing	Notes	Application	Patent
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EP 456206	A		26				
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Designated States (Regional): DE FR GB

✓ JP 4014935	A		13				
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EP 456206	A3		26				
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US 5307353	A		24				
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EP 456206	B1 E		30				
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Designated States (Regional): DE FR GB

DE 69116724	E			Based on			
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EP 456206

Abstract (Basic): EP 456206 A

The system has a fault data writing unit (22, 32) for writing, when an input fault is detected by a node, fault data in a predetermined user byte (UB) in an overhead of a frame flowing through both a working line (W) and a protection line (P) running in opposite directions to each other.

By detecting the fault data in a super-vision node or a node just before the fault position, the supervision node or the node just before the fault position executes a loop back operation.

ADVANTAGE - Rapidly and efficiently recovers ring network even when multiple faults occur.

Dwg.7/14

Abstract (Equivalent): EP 456206 B

The system has a fault data writing unit (22, 32) for writing, when an input fault is detected by a node, fault data in a predetermined user byte (UB) in an overhead of a frame flowing through both a working line (W) and a protection line (P) running in opposite directions to each other.

By detecting the fault data in a super-vision node or a node just before the fault position, the supervision node or the node just before the fault position executes a loopback operation.

ADVANTAGE - Rapidly and efficiently recovers ring network even when multiple faults occur. (26pp Dwg.No.7/14)

EP-456206 A fault recovery system of a centralised control type ring network based on a synchronous transport module transmission system, said ring network comprising: optical fibre transmission lines including a working line (W) and a protection line (P) running in opposite directions to each other; a plurality of drop/insert nodes (A, B, C and D) connected to each other through said optical fibre transmission lines (P and W); and a supervision node (SV), connected through said optical fibre transmission lines (P and W) to said drop/insert nodes (A, B, C and D); characterised by each of said drop/insert nodes having; input fault detecting means (11, 33) for detecting an input fault on the working line (W) or the protection line (P); fault data writing means (22, 32) for writing, when said input fault is detected by said input fault detecting means (11, 33) fault data (F1 (#b, #k, S) in a predetermined user byte (UB) in an overhead of a frame flowing through both of the working line (W) and the protection line (P); and user byte passing means (7) for passing said user byte (UB) as is through said node, when an input fault is not detected by said input fault detecting means (11, 33); and said supervision node (SV) having: fault data detecting means (12, 42) for detecting the fault data in said user byte (UB) transmitted from the node which has detected said input fault through the downstream sides of the working line (W) and the protection line (P) of said node which has detected said input fault; fault position determining means (5, 6) for determining based on said fault data detected by said fault data detecting means (12, 42), a node which had detected said input fault; writing means (5, 6) for writing, into said user bytes (UB), loopback requests (LBR) for requesting nodes located immediately downstream and upstream of the fault position and closest to said supervision node, to execute loopback operations; and sending means (7) for sending said loopback requests (LBR) through said working line (W) and said protection line (P) to said nodes located downstream and upstream of the fault position; whereby said nodes located immediately downstream and upstream of the fault position and closest to said supervision node (SV) execute loopback operations to recover the fault.

(Dwg.7/14)

Abstract (Equivalent): US 5307353 A

The fault recovery system is based on a synchronous transport module transmission system, having a fault data writing unit for writing, when an input fault is detected by a node, fault data in a predetermined user byte in an overhead of a frame flowing through both a working line and a protection line running in opposite directions to each other.

By detecting the fault data in a supervision node or a node just before the fault position, the supervision node or the node just before the fault position executes a loopback operation.

ADVANTAGE - Rapid and efficient recovery even when multiple faults occur.

Dwg.2/14

Title Terms: FAULT; RECOVER; SYSTEM; RING; NETWORK; TRANSFER; INPUT; FAULT; DETECT; NODE; RING; CENTRE; DISTRIBUTE; CONTROL; NODE; SET; USER; BYTE; OVERHEAD

Derwent Class: W01

International Patent Class (Main): G01R-031/28; H04L-001/00; H04L-012/42

International Patent Class (Additional): H04L-012/437

File Segment: EPI

Manual Codes (EPI/S-X): W01-A06; W01-A06A; W01-A06B2